UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

NETWORK-1 TECHNOLOGIES, INC., Plaintiff, v. GOOGLE LLC and YOUTUBE, LLC, Defendants.	14 Civ. 2396 (PGG) 14 Civ. 9558 (PGG)

PLAINTIFF NETWORK-1 TECHNOLOGIES, INC.'S
BRIEF IN SUPPORT OF MOTION FOR SUMMARY JUDGMENT

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I.   INTRODUCTION

This motion addresses various defenses of invalidity of asserted claims of the three patents-in-suit advanced by defendants (collectively "Google") in this case. Specifically, Google asserts defenses that one of the asserted claims, claim 17 of U.S. Patent 8,010,988 ("the '988 patent") is anticipated by prior art under 35 U.S.C. § 102, and that claim 17 of the '988 patent, as well as all of the asserted claims of the other two patents-in-suit, U.S. Patent 8,205,237 ("the '237 patent") and U.S Patent 8,904,464 ("the '464 patent") are rendered obvious by prior art under 35 U.S.C. § 103. Each defense relies on assertions that the inventions of the patents-in-suit were publicly disclosed before the inventions by Dr. Ingemar Cox, the inventor of all of the patents-in-suit. Google bears an elevated clear and convincing burden of proof as to all of these defenses. Google cannot meet its burden as a matter of law.

First, Google's prior art defenses rely extensively on assertions that two alleged prior art "systems" utilized all or nearly all of the elements of the claims of the patents-in-suit. The three patents-in-suit (referred to herein collectively as the "Cox patents") all claim priority to a provisional patent application filed by Dr. Ingemar Cox on September 14, 2000.[1] Google contends that a system called Clango was released in an "alpha" test form to a small number of members of the public in July 2000, and that a subsequent "beta" test version of that system was released to some members of the public in August 2000. Google also contends that another system called FreeAmp was made available to members of the public in August 2000.

Google's prior art contentions regarding these systems fail for several independent reasons. First, Google lacks evidence that the relevant aspects of these systems qualify as prior art because they were never publicly disclosed. Under clear Federal Circuit precedent, aspects of a system that

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[1] For purposes of this motion only, Network-1 assumes the date of invention to be September 14, 2000 which is the priority date of the provisional application to which each of the patents-in-suit claim priority. Network-1 reserves the right to present at trial evidence that the relevant date of invention was earlier.

are not disclosed to the public are not prior art. In particular, all of the asserted claims of the Cox

patents claim a particular type of search (e.g., non-exhaustive, neighbor, near neighbor, sublinear,

etc). The search algorithms used by these prior art systems were secret from the public and therefore

cannot support Google's assertions. Second, Google's evidence of the alleged functioning of these

systems at the critical time before Dr. Cox's patent filings fails as a matter of law because it consists

of only uncorroborated testimony of persons involved at the time. Google cannot present any of the

computer code from that time that allegedly performed the relevant functions in either system.

Federal Circuit law holds that a claim of prior public use or prior invention cannot rely on

uncorroborated testimony (even where multiple witnesses purport to corroborate one another) and

that such evidence fails to satisfy the burden of proof as a matter of law. Finally, Google asserts that

aspects of these systems could have been combined with other prior art publications or patents to

render claims of the Cox patents obvious. Once again, Google's assertions fail as a matter of law

because it cannot show that it would have been obvious to a person of ordinary skill in the art to

combine aspects of patents or publications with the hidden, secret functioning of the Clango and

FreeAmp systems Google relies on.

Google also asserts a prior art theory as to some asserted patent claims based on combining

two prior art references (a patent and a printed publication). Google is estopped from asserting this

theory as to the '988 patent and the '237 patent because Google already presented a challenge to the

asserted claims of those patents in an *Inter Partes* Review proceeding before the patent office. The

patent office rejected Google's challenge. Pursuant to 35 U.S.C. § 315, Google is now estopped

from advancing this prior art theory in this Court.

II.   SUMMARY JUDGMENT STANDARDS

"The court shall grant summary judgment if the movant shows that there is no genuine

dispute as to any material fact and the movant is entitled to judgment as a matter of law." FED. R.

CIV. P. 56(a); *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986) ("Summary judgment is appropriate

if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the

affidavits, if any, show that there is no genuine issue as to any material fact and the moving party is

entitled to a judgment as a matter of law."). A fact is "material" only if it might affect the outcome

of the case. *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). Likewise, a dispute as to

a material fact is "genuine" only if the evidence is such that "a reasonable jury could return a verdict

for the nonmoving party." *Id*. The question is "whether a jury could reasonably find *either* that the

[moving party] proved his case by the quality and quantity of evidence required by the governing law

or that he did not." *Id*. at 254. Accordingly, once the moving party establishes a prima facie case,

the burden shifts to the nonmoving party to set forth specific facts by "citing to particular parts of

materials in the record" showing that there is a genuine issue for trial. FED. R. CIV. P. 56(c)(1)(A);

see also Anderson, 477 U.S. at 250.

III.   **GOOGLE'S PRIOR ART THEORIES BASED ON "SYSTEMS" FAIL AS A MATTER OF LAW**

Google asserts validity defenses of both anticipation under 35 U.S.C. § 102 and obviousness

under 35 U.S.C. § 103. Both assert that the inventions of the asserted Cox patents are invalid based

on alleged prior art. Google's anticipation defense relies solely on a single alleged prior art "system"

called Clango. Google also asserts that Clango and another alleged prior art "system" called

FreeAmp render various claims of the patents-in-suit obvious either alone or in various

combinations. All of the anticipation and obviousness defenses based on one or both of these

systems fail as a matter of law because elements of these systems that Google contends disclose

claim elements of the asserted Cox patent claims were not publicly disclosed and separately because

those key elements were suppressed or concealed by the alleged developers of these systems.

Because these elements were not public, they are not prior art. Google bears the burden of proving

every element of each of these defenses by clear and convincing evidence, and the evidence

proffered fails to meet that standard as a matter of law.

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A.   **Background**

Google presents its theories of invalidity through its proposed expert witness, Trevor Darrell. A copy of Dr. Darrell's expert report is attached as Exhibit 1 to the Affidavit of Brian D. Ledahl, submitted herewith. A copy of relevant excerpts of Dr. Darrell's deposition testimony is attached as Exhibit 4 to the Ledahl Affidavit.[2] In presenting those opinions, Dr. Darrell discusses and relies on the two "systems" referenced above, Clango and FreeAmp. Because the pertinent aspects of the systems were not publicly available before September 14, 2000 and/or were suppressed or concealed, those non-public elements of Clango and FreeAmp cannot qualify as prior art as a matter of law, and thus cannot support a defense of invalidity under Section 102 or 103.

i.   **Clango**

Dr. Darrell asserts that Clango was a system offered by a company called Audible Magic for identifying music that a computer user was playing on their computer over the Internet. Ex. 1 Darrell Report at pp. 64-65. According to Dr. Darrell, the Clango "system" anticipates claim 17 of the asserted '988 patent, renders obvious asserted claims 33, 34, and 35 of the '237 patent (standing alone), and also renders obvious all of the asserted claims of the patents-in-suit, (including claims 1, 8, 10, 16, 18, 25, 27, and 33 of the '464 patent) in combination with a prior art patent called Chen.[3]

Google's defenses based on the Clango system, alone or in combination with Chen, fail as a matter of law because Google cannot provide the evidence required to show 1) any public disclosure of key elements of the Clango system, including the details of its search functionality, 2) the actual functioning of the Clango system as of the priority date of the asserted patents, or 3) that any person skilled in the art at the time of the invention of the asserted Cox patents would have been motivated to combine Clango, or any part of it, with anything else, because such a person could not have even understood how Clango actually worked. The first two of these failures require summary judgment

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[2] Unless otherwise noted, all exhibits discussed herein are exhibits to the Affidavit of Brian D. Ledahl accompanying this motion.

[3] For purposes of this motion, Network-1 assumes that the Chen reference constitutes prior art to the asserted patents, but does not concede that fact or otherwise relieve Google of its ultimate burden of proof on that issue.

as to every Google defense that relies on Clango. The third requires summary judgment as to all of

Google's obviousness defenses relying on Clango in combination with Chen.

ii.   FreeAmp

Dr. Darrell asserts that FreeAmp was a system for identifying music files that a computer

user had on his or her personal computer. Ex. 1 Darrell Report at pp. 78-80. According to Dr.

Darrell, the FreeAmp "system" by itself rendered obvious asserted claim 17 of the '988 patent, and

asserted claims 33 and 34 of the '237 patent. Dr. Darrell also asserts that FreeAmp renders obvious

claim 17 of the '988 patent and claims 33 and 34 of the '237 patent in combination with a prior art

publication called Arya.[4] Dr. Darrell also asserts that FreeAmp renders claim 34 of the '237 patent

obvious in combination with the Chen reference, and that FreeAmp renders claims 34 and 35 of the

'237 patent obvious in combination with both the Arya reference and the Chen reference together.

Google and Dr. Darrell's reliance on the FreeAmp system, alone or in the various

combinations, fails to support its defenses for the same core reasons that Google's showing for

Clango fails. Google fails to provide the evidence required to show 1) any public disclosure of key

elements of the FreeAmp system, including the details of its search functionality, 2) the actual

functioning of the FreeAmp system as of the priority date of the asserted patents, or 3) that any

person skilled in the art at the time of the invention of the asserted Cox patents would have been

motivated to combine FreeAmp, or any part of it, with anything else, because such a person could not

have even understood how FreeAmp actually worked. The first two of these failures require

summary judgment as to every Google defense that relies on FreeAmp. The third requires summary

judgment as to all of Google's obviousness defenses relying on FreeAmp in combination with one or

more other references.

B.   Legal Standards

Patent claims issued by the United States Patent and Trademark Office are presumed valid.

The burden of establishing invalidity rests with the party asserting such invalidity. 35 U.S.C. § 282.

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[4] For purposes of this motion, Network-1 assumes that the Arya reference constitutes prior art to the
asserted patents, but does not concede that fact or otherwise relieve Google of its ultimate burden of
proof on that issue.

Such defenses of invalidity must be proved by clear and convincing evidence. *Microsoft Corp. v. i4i Ltd. Partnership*, 131 S. Ct. 2238, 2242 (2011). Here, Google asserts challenges of anticipation, which is governed by 35 U.S.C. § 102, and obviousness, which is governed by 35 U.S.C. § 103. Anticipation means that each and every element of a claim is either expressly or inherently disclosed in a single reference. If even one element or aspect of the claim is not disclosed or present, then as a matter of law the claim is not anticipated. Obviousness means that a patented invention may not be disclosed or described identically in a prior art reference (as required for anticipation), but the differences between the patented invention and the prior art are sufficiently limited that the invention as a whole would have been obvious at the time of the patented invention to someone skilled in the relevant field and they would have been motivated to combine or modify the prior to art to make the invention with an expectation of success.

The three patents-in-suit all claim priority to a provisional patent application that was filed September 14, 2000. Because this priority is before 2013, pursuant to the provisions of the America Invents Act ("AIA"), Pub. L. 112-29 – Sept. 16, 2011, 125 Stat. 284, *et seq.*, the relevant provisions of Sections 102 and 103[5] are the provisions of those sections as they existed prior to the AIA. *See* Pub. L. 112-29, § 3(e)(3), 125 Stat. 288 (setting the effective date for the amendments as applicable to patent applications filed more than 18 months after enactment of the America Invents Act – Sept. 16, 2011).

i.   Anticipation

In his analysis, Dr. Darrell does not specify the particular subsection(s) of Section 102 on which he relies. The context of his report suggests that he relies on two potential sections of Section 102: subsection (a) (relating to prior knowledge or use of an invention), and subsection (g) (relating to prior invention by one who did not abandon, suppress or conceal it). Pre-AIA Section 102 provides (in relevant part):

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[5] Because the 2011 amendments to Sections 102 and 103, as they related to whether something is prior art, anticipated and/or rendered obvious do not apply here, all further references to Sections 102 and 103 will refer to the relevant (pre-AIA) versions of 35 U.S.C. §§ 102 and 103.

"A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent

. . . .

(g) . . . (2) before such person's invention thereof, the invention was made in this country by such inventor who had not abandoned, suppressed, or concealed it. In determining priority of invention under this subsection, there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other."

a.   **Section 102(a) requires public use that actually discloses the claimed features to the public**

To sustain a defense of anticipation under Section 102(a), the alleged public use must actually disclose the claimed features to the public. The Federal Circuit recently reiterated "[t]his court has uniformly interpreted the 'known or used' prong of §102(a) to mean 'knowledge or use which is accessible to the public.'" *BASF Corp. v. SNF Holding Co.*, 955 F.3d 958, 964 (Fed. Cir. 2020) (quoting *Carella v. Starlight Archery & Pro Line Co.*, 804 F.2d 135, 139 (Fed. Cir. 1986)); *see also*, *Woodland Trust v. Flowertree Nursery, Inc.*, 148 F.3d 1368, 1370 (Fed. Cir. 1998) ("in order to invalidate a patent based on prior knowledge or use, that knowledge or use must have been available to the public"). "[I]f members of the public are not informed of, and cannot readily discern, the claimed features of the invention in the allegedly invalidating prior art, the public has not been put in possession of those features." *Dey, L.P. v. Sunovian Pharmaceuticals, Inc.*, 715 F.3d 1351, 1359 (Fed. Cir. 2013); *see also Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1570 (Fed. Cir. 1997).

Similarly, the Federal Circuit holds that a public use of a system (such as a machine) does not reveal to the public (and thus cannot anticipate or render obvious) the process implemented by the machine, where that process would not be evident to the public from the mere operation of the

machine. *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1549-1550 (Fed. Cir. 1983). The

Federal Circuit explained: "Early public disclosure is a linchpin of the patent system. As between a

prior inventor who benefits from a process by selling its product but suppresses, conceals, or

otherwise keeps the process from the public, and a later inventor who promptly files a patent

application from which the public will gain a disclosure of the process, the law favors the latter." *Id.*

at 1550 (citing *Horvath v. Lee*, 564 F.2d 948 (CCPA 1977)).

Thus, where an alleged prior art system has both features that are discernable to the public

and features that are not discernable to the public (e.g. a black box), the system is only prior art with

respect to those features that are disclosed or readily discernable to the public. Non-disclosed

features are not considered part of the prior art system for purposes of Section 102(a). Likewise, the

Federal Circuit explains that "[p]rior knowledge or use that is not accessible to the public 'upon

reasonable inquiry,' confers no benefit on the public, and thus does not suffice as a defense under §

102(a)." *BASF Corp.*, 955 F.3d at 965 (internal citation to *Gayler v. Wilder*, 51 U.S. (10 How.) 477,

497 (1850) omitted).

b.   Section 102(g) requires disclosure to the public of the claimed features

A defense of anticipation under Section 102(g) has a similar precept that prior invention must

be made by an inventor who does not abandon, suppress, or conceal the invention. The Federal

Circuit holds that failure by an alleged prior art inventor to disclose the process used by the invention

reflects suppression or concealment of the invention. *See Apotex USA, Inc. v. Merck & Co.*, 254 F.3d

1031, 1039 (Fed. Cir. 2001). There, the Federal Circuit held that public sale of a pharmaceutical

product did not disclose the process for producing it, and the failure to disclose that process

constituted suppression or concealment of the invention. The Federal Circuit further explained that

an unreasonable delay in filing a patent application by the alleged prior inventor gives rise to a legal

inference of suppression or concealment. *Id.* at 1038 (citing cases holding that a four-year and a two-

year and five-month delay reflected suppression or concealment). The Court stated that prior

invention of a process could not invalidate a later patent on the same process where the prior inventor

did nothing to make the claimed features of the invention known to the public. *Id.* (citing *Int'l Glass

Co. v. United States*, 408 F.2d 395, 403 (Ct. Cl. 1969)). The Federal Circuit holds that "[a]bsent a

satisfactory explanation for the delay or the presence of other mitigating facts, a prior invention will

therefore be deemed suppressed or concealed within the meaning of § 102(g) 'if, within a reasonable

time after completion, no steps are taken to make the invention publicly known.'" *Apotex*, 254 F.3d

at 1039 (quoting *Int'l Glass*, 408 F.2d at 403). As with Section 102(a), an alleged prior art system

that has both features that are discernable to the public and features that are not discernable to the

public cannot satisfy the requirement of public disclosure under Section 102(g). Non-disclosed

features are not considered part of the prior art system for purposes of Section 102(g) because

without public disclosure those secret features were suppressed or concealed.

Thus, the Federal Circuit recognizes "prior art" to be "technology already available to the

public" and "secret prior art" – technology not actually available to the public – cannot be used to

invalidate a patent under Section 102(g). *Kimberly -Clark Corp. v. Johnson & Johnson*, 745 F.2d

1437, 1446, 1453 (Fed. Cir. 1984). This leads to a similar result as that discussed in the context of

Section 102(a) above: "[W]hen the possessor of secret prior art (art that has been abandoned,

suppressed, or concealed) that predates the critical date is faced with a later-filed patent, the later-

filed patent should not be invalidated in the face of this 'prior' art which has not been made available

to the public. Thus, prior, but non-public, inventors yield to later inventors who utilize the patent

system." *Oddzon Prods., Inc. v. Just Toys, Inc.*, 122 F.3d 1396, 1402 (Fed. Cir. 1997).

    c. **Proof of prior public use or prior invention requires written corroboration --**
          testimony without corroboration is not sufficient

In addition to the requirements for timely public disclosure of the claimed elements set forth

above, the Federal Circuit requires that evidence of prior art public use or prior invention must be

proven with more than mere testimony. "Generally, oral testimony of prior public use must be

corroborated in order to invalidate a patent." *Juicy Whip, Inc. v. Orange Bang, Inc.*, 292 F.3d 728,

737-38, 743 (Fed. Cir. 2002). Further, multiple witnesses cannot "cross-corroborate" one another

with oral testimony. *See Lacks Indus., Inc. v. McKechnie Vehicle Components USA, Inc.*, 322 F.3d

1335, 1350 (Fed. Cir. 2003). The requirement for non-testimonial corroboration exists even where

the witness is not affiliated with a party to the litigation. *See Finnigan Corp. v. ITC*, 180 F.3d 1354,

1367-68 (Fed. Cir. 1999) ("Moreover, the need for corroboration exists regardless whether the party

testifying concerning the invalidating activity is interested in the outcome of the litigation (e.g., because that party is the accused infringer) or is uninterested but testifying on behalf of an interested party."). The requirement of non-testimonial corroboration also applies to claims of prior invention under Section 102(g). *See Woodland Tr. v. Flowertree Nursery, Inc.*, 148 F.3d 1368, 1373 (Fed. Cir. 1998) ("Corroboration of oral evidence of prior invention is the general rule in patent disputes."); *Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1374-76 (Fed. Cir. 2009) ("Because Lonza sought to introduce the testimony of an alleged prior inventor under § 102(g) for the purpose of invalidating a patent, Lonza was required to produce evidence corroborating [his] testimony.").

ii.   Obviousness

Google also contends that the asserted claims of the Cox patents are invalid for obviousness based on the same Clango and FreeAmp systems. Obviousness is governed by 35 U.S.C. § 103. The relevant portion of Section 103 (pre-AIA) provides:

> "(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

a.   Prior art relied on for obviousness must qualify as prior art under Section 102

To qualify as prior art that may be relied on under Section 103, the prior art must first qualify as prior art under Section 102. *See Graham v. John Deere Co. of Kansas City*, 85 S. Ct. 684, 692 (1966) ("Section 103 states this requirement in the title. It refers to the difference between the subject matter sought to be patented and the prior art, meaning what was known before as described in section 102.") (emphasis added). Thus, an alleged prior art system can only be used to establish obviousness under Section 103 to the extent that it would have been "prior art" under Section 102. If a prior art system cannot meet a claimed element under 102(a) or 102(g) because that claimed element was not disclosed to the public, neither can that that prior art system be used to meet the undisclosed element as part of an obviousness combination under 103.

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b.   Obviousness combinations of prior art require proof of a motivation to combine and an expectation of success

Google asserts that various asserted claims are invalid as obvious in light of particular combinations of asserted prior art or modifications of one of the asserted prior art "systems." "A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR Int'l. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1731 (2007). Rather, when a patent challenger argues that a particular piece of prior art could be modified, or combined with other prior art to render a patent claim obvious, "[a] party seeking to invalidate a patent on the basis of obviousness must demonstrate by clear and convincing evidence that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so." *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1360 (Fed. Cir. 2012) (internal quotations omitted).

C.   The Search Functions Of Clango That Google Relies On To Meet The Claimed Search Features Were Not Disclosed To The Public And Cannot Qualify As Prior Art

As explained below, all of the asserted claims of the Cox patents require a particular kind of search that is **non-exhaustive**, or an **approximate nearest neighbor search**. Several of the asserted claims further require that the search be **sublinear**. Google asserts that the Clango systems used a "kd-tree search algorithm" that purportedly discloses these claimed features of each of the asserted claims.[6] In all cases, however, Clango's creator, Audible Magic, made no public disclosure of Clango's search functionality, nor could it be ascertained by users of the Clango system. As such, Clango cannot qualify as prior art with respect to its alleged search functionality and cannot be used

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[6] Google points to both an alleged alpha and an alleged beta test release of Clango in its assertions, but it points to the same alleged functionality in each for purposes of the claimed search functionality. For purposes of this issue only, Network-1 assumes that the Clango systems actually used such a search algorithm, though as addressed further below, Google lacks sufficient evidence that such a search was actually used in the Clango alpha or beta systems. Network-1 reservers the right to challenge this assumption at trial, if necessary.

to meet the claimed search feature elements (e.g., non-exhaustive search, approximate nearest neighbor search, or sublinear) under either Section 102 or Section 103.

i.   Google relies on the kd-tree search allegedly used by Clango to meet the claimed search feature elements

Where Google relies on Clango by itself either to contend that a particular patent claim is anticipated, or that it is obvious, Google necessarily must rely on Clango to allegedly disclose the claimed search elements of the asserted claims. This is the case for claim 17 of the '988 patent and for claims 33, 34, and 35 of the '237 patent. Network-1 refers the Court to Paragraphs 1-18 of the L.R. 56.1 Statement.

Claim 17 of the '988 patent (which depends on claim 15) requires identification of an electronic work "based on a **non-exhaustive search** identifying a **neighbor**," "**wherein the non-exhaustive search is sublinear**" (emphasis added). Google's technical invalidity expert, Dr. Trevor Darrell, contends that these claim elements were disclosed in the Clango system through the "lookup algorithm" of the system that Dr. Darrell describes as a "kd-tree search algorithm." Ex. 1 Darrell Report at ¶¶ 181; 187; 207.

Claim 33 of the '237 patent requires "using the media work extracted features to perform a **sublinear approximate nearest neighbor search** of reference extracted features" (emphasis added). Claims 34 and 35 depend from claim 33 and do not further modify this claim element. Dr. Darrell contends that this element was disclosed in the Clango system by the same "kd-tree search algorithm" referenced above in connection with the '988 patent. Ex. 1 Darrell Report at ¶¶ 351-352.

Where Google relies on Clango in combination with some other asserted prior art, as shown below, it also relies on Clango for disclosure of the claimed search elements. *See* Ex. 4 Darrell Deposition at 236:7-15. With respect to claim 17 of the '988 patent, Google relies on a combination of Clango with the Chen reference. Ex. 1 Darrell Report at ¶ 298. In this combination, Dr. Darrell points to the same "kd-tree search" discussed above as allegedly disclosing the "non-exhaustive search identifying a neighbor" "wherein the non-exhaustive search is sublinear" claim element. Ex. 1 Darrell Report at ¶¶ 311, 313, 319. Google relies on the same combination of Clango with the Chen reference in connection with its contentions of obviousness of claims 33, 34, and 35 of the '237

patent. Ex. 1 Darrell Report at ¶¶ 382, 433, 447. In this combination, Dr. Darrell points to the same "kd-tree search" discussed above as allegedly disclosing the "using the media work extracted features to perform a sublinear approximate nearest neighbor search of reference extracted features" claim element. Ex. 1 Darrell Report at ¶¶ 389, 392, 397.

Independent claims 1 and 18 of the '464 patent requires "correlating, by the computer system using a **non-exhaustive, near neighbor search**." Asserted claims 8, 10, and 16 depend from claim 1 and do not further modify this claim element. Asserted claims 25, 27, and 33 depend from claim 18 and also do not further modify this claim element. For all of these claims, Google relies on the same combination of Clango and the Chen reference discussed above. Ex. 1 Darrell Report at ¶¶ 463, 499, 505, 510, 520, 533, 538, 543. Dr. Darrell points to the same search functionality of Clango as allegedly disclosing the claimed search elements as discussed with respect to the '988 and '237 patents above. Ex. 1 Darrell Report at ¶¶ 467, 469, 523.

Thus, whether relied on alone or in combination with some other reference, each of Google's assertions involving the Clango "system" relies on the "kd-tree search" allegedly used in the Clango system as disclosing the claimed search feature elements of the asserted Cox patents.

ii. It is undisputed that the kd-tree search of the Clango system was not disclosed to the public

Google relies solely on the alleged availability of the Clango system to users of that system as the alleged public disclosure or public use of the relevant elements of the Clango system. Those users would have, according to Google, downloaded a small application that could run on their computers when they were playing music over the Internet. Ex. 1 Darrell Report at ¶ 125. When the user clicked a button on that application, a small time interval would pass, and then the application would display the name of the song that was playing. Ex. 6 Wold depo. at 14:3-13. According to Google, the application would perform operations internally to extract features from captured audio from the Internet stream of music, and send those extracted features to an Audible Magic server somewhere else. The server would implement the search algorithm, and then send back information about the result that would cause the application to display the song title. Ex. 6 Wold Depo. at 29:21-30:22. The users (the public) only ever received what is called "object code," or "binary

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code," a string of 1s and 0s that constitute the actual computer program. Ex. 7 Schrempp Depo. at 161:22-162:9*. **Significantly, it is undisputed that users did not receive or have access to the computer source code that constitutes a human-readable form of a computer program.** Ex. 7 Schrempp depo. at 161:22-162:4; Ex. 4 Darrell Depo. at 153:5-13.

The alleged public availability of the Clango application to users to disclose the claimed search feature elements of the system cannot as a matter of law support Google's claims. Network-1 refers the Court to Paragraphs 19-20 of the L.R. 56.1 Statement. It is undisputed and Google's expert, Dr. Darrell, admits that *users of the Clango system could not have discerned what kind of search algorithm the system used, and indeed would not even know if the search was performed by a computer*:

> "Q: From using the Clango system just as an end user, did a user have information as to the search algorithm or the type of search algorithm that was used in the system?
>
> . . .
>
> THE WITNESS: I mean, a user wouldn't know whether it's a bunch of human beings doing it, to be honest. So, no."

Ex. 4 Darrell Depo. at 152:6-13.

Audible Magic (the source of the Clango system) witnesses also confirmed that the search methodology of Clango was not disclosed to the public. Audible Magic witnesses described the kd-tree search relied on by Dr. Darrell as an "indexed" search, as contrasted with a non-indexed search that their system could also run in which a sample was compared to every record in the database exhaustively. *See, e.g.*, Ex. 6 Wold depo. at 93:8-94:1; 98:19-22. It is undisputed, and Audible Magic witnesses admit, that Audible Magic did not publicly disclose that its system ran using an indexed search. Ex. 6 Wold depo at 212:15-213:6 ("Q: Now, what was the first time that you or anybody at Audible Magic made any public disclosure about any of the indexing techniques you use there? . . . THE WITNESS: Yeah, I mean that's a pretty broad question. I mean, in some ways *we've never made public disclosure*. . . . .") (emphasis added). Audible Magic witnesses further confirmed that use of the Clango system would not reveal how the search was conducted. Ex. 6 Wold depo. at 204:17-205:1 ("Q: *The search was* on something else that the *user didn't have access to*? A: *That's*

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correct, except through the sending of the package to it, yes. Q: But it was a **black box** the user had

no understanding of, correct? A: **Right**.") (emphasis added); *see also* Ex. 7 Schrempp depo. at

162:5-9 ("Q: And the binary code that they [users] had *wouldn't tell them one way or the other how*

the search was being conducted, for example; is that right? . . . THE WITNESS: *That is correct*.")

(emphasis added).

> ### iii. <u>Because the Clango search functionality was not disclosed to the public, it cannot anticipate the claimed search feature elements under Section 102(a)</u>

As discussed previously, anticipation by alleged public use of an invention under Section

102(a) only applies where all of the elements of the claim to be anticipated were actually disclosed

through the alleged public use. The Federal Circuit holds that aspects of an invention that are hidden

from the public in a supposed public use are not disclosed for purposes of Section 102(a). For

example, the public use of a machine for manufacturing Teflon tape (used in plumbing) by

performing a novel stretching process for making the tape was held by the Federal Circuit not to

anticipate a patent on that stretching process because the mere operation of the machine, even in

public, would not provide knowledge to the public of the process used. *W.L. Gore & Assoc. v.*

Garlock, Inc., 721 F.2d 1540, 1549-1550 (Fed. Cir. 1983).[7]

Here, as shown above, Google's expert witness, Dr. Darrell, admits that the alleged public

use of the Clango system would not have informed the public, or allowed it to discern the search

functionality used by Clango. He further admits that public availability is a legal matter and that he

merely assumed public availability for purposes of his analysis. Ex. 4 Darrell Depo. at 45:1-46:7.

Audible Magic witnesses Wold and Schrempp further confirmed that the availability of the Clango

client software would not disclose the nature of Clango's search functionality to the public – it was

essentially a black box. As the Federal Circuit states, "if members of the public are *not informed of*,

and *cannot readily discern*, the claimed features of the invention in the allegedly invalidating prior

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[7] This rule is applied differently where an alleged public use is by the inventor of the patent at issue, rather than a third party. Here, the alleged public uses on which Google relies are only by third parties.

art, ***the public has not been put in possession of those features***.” *Dey, L.P. v. Sunovian*

Pharmaceuticals, Inc., 715 F.3d 1351, 1359 (Fed. Cir. 2013) (emphasis added). Even assuming the

Clango system was in public use at the relevant time as Google contends (which as shown below,

Google cannot prove with corroborating evidence), Google failed to adduce any evidence that this

would actually put the public in possession of the relevant features (the kd-tree search functionality).

As such, the Clango system cannot serve as prior art with respect to the claimed search feature

elements (non-exhaustive search, approximate nearest neighbor search, sublinear, etc.) under Section

102(a) as a matter of law.

> iv.   <u>It is undisputed that the Clango kd-tree search algorithm was</u>
>
>   <u>suppressed or concealed, so that it cannot serve as prior art under</u>
>
>   <u>Section 102(g)</u>

As discussed previously, the analysis under Section 102(g) is similar to that under Section

102(a). Alleged prior invention cannot be prior art unless that prior invention is timely disclosed to

the public and not “abandoned, suppressed, or concealed.” Here, Google’s expert, Dr. Darrell admits

that he offers no opinion that Audible Magic (the asserted creator of Clango) ever disclosed the kd-

tree search functionality to the public. Ex. 4 Darrell Depo. at 154:22-155:7. He admits that he offers

no opinion that Audible Magic ever disclosed the Clango kd-tree search functionality in a patent or

publication. Ex. 4 Darrell Depo. at 155:9-20. Thus, according to Google’s evidence, some

unspecified Audible Magic individuals made the alleged invention of the Cox patents, including the

claimed search feature elements required by each of the asserted claims, in or around 2000, but never

disclosed those claimed search feature elements in a patent or publication, and the public would not

be able to discern those claimed search feature elements from the Clango application that Audible

Magic made available to the public. This is not good enough to invalidated the asserted patent

claims as a matter of law. Network-1 refers the Court to Paragraph 21 of the L.R. 56.1 Statement.

The Federal Circuit holds that such failure to disclose shows suppression or concealment of

the purported invention. *See Apotex USA, Inc. v. Merck & Co.*, 254 F.3d 1031, 1038-1039 (Fed. Cir.

2001). In *Apotex,* the Federal Circuit noted delays of two years and five months in one case and four

years in another case before public disclosure constituted suppression or concealment. *Id.* Here,

Google offers no evidence of public disclosure at any time, even twenty years after the purported invention. Indeed, even in this lawsuit, Audible Magic continues to maintain the confidentiality of the computer code and testimony purportedly evidencing the kd-tree search techniques on which Google relies. Ledahl Decl., ¶ 20. This concealment of the alleged prior art search techniques used by Clango disqualifies them as prior art under Section 102(g).

> **v.** **Because the Clango search was not prior art under Section 102, it cannot be relied on to show obviousness under Section 103**

As set forth previously, an assertion of obviousness under Section 103 may only be based upon prior art that would qualify as such under Section 102 (except for its failure to disclose all elements in the same manner). Here, as shown above, it is beyond dispute that the Clango kd-tree search functionality discussed by Dr. Darrell was not part of a public use or prior invention as required by Sections 102(a) and (g) because it was never disclosed to the public. That kd-tree search functionality therefore cannot be part of the prior art for purposes of asserting obviousness under Section 103. *See Graham*, 85 S. Ct. at 692.

But as shown previously, Google's obviousness analysis for every assertion involving the Clango system relies on the Clango kd-tree search functionality as a necessary part of its showing, specifically to show that the prior art disclosed the claimed search feature elements (e.g. nonexhaustive search, approximate nearest neighbor search, sublinear, etc.) of the asserted claims of the Cox patents. Since the Clango kd-tree search functionality does not qualify as a part of the prior art, Google's obviousness assertions based on Clango each fail as a matter of law.

> **D.** **Google Fails To Establish The Alleged Public Use Or Prior Invention of Clango (Specifically The Use Of kd-Tree Search) At The Relevant Time Because It Relies On Uncorroborated Testimony**

Google's Clango-based defenses also fail for the independent reason that Google's evidence that Clango's secret, non-public alleged use of kd-tree search does not even predate the Cox patent

priority date.[8] Network-1 refers the Court to Paragraphs 22-24 of the L.R. 56.1 Statement. As

explained previously, to establish either a prior public use (for purposes of Section 102(a)), or a prior

invention (for purposes of Section 102(g)), Google may not rely on uncorroborated testimony. *See*

supra Section B.i.c. But that is all Google presents, and it thus fails to present evidence sufficient to

carry its burden as a matter of law. Specifically, Google cannot meet its burden to provide written

evidence corroborating that either the alpha or beta releases of Clango used kd-tree search.

<div align="center">

i.   **Google's expert asserts that Clango performed kd-tree search as of**

particular dates based solely on testimony

</div>

As noted previously, Google attempts to establish the existence of the claimed search feature

elements by asserting that Clango used kd-tree search functionality in an alleged alpha release and an

alleged beta release. Google asserts that these releases took place in July 2000 (alpha) and August

2000 (beta). Ex. 1 Darrell Report at ¶¶ 131, 135. With respect to the kd-tree search functionality of

Clango, Google's proposed expert, Dr. Darrell, does not suggest that there was any difference

between these two alleged releases. Ex. 4 Darrell Depo. at 97:21-99:19. In particular, Dr. Darrell

asserts that both the alpha and beta releases of the Clango system used a kd-tree search functionality.

See supra, Section C.i.

Dr. Darrell's source for the assertion that the Clango releases used a kd-tree search

functionality is only testimony from two Audible Magic witnesses. With respect to the alleged alpha

release of Clango relied on by Google, Dr. Darrell admits that *he never saw computer code for that*

actual release, but relied only on the testimony of witnesses as to the functioning of that code. Ex. 4,

Darrell Depo. at 102:5-103:6 ("Q: So you did not have a separate compiled – or directory of the code

that was itself actually compiled into the alpha. You're relying on the testimony that this is code that

was in the alpha? A: Whatever my opinions are, I believe my basis for them in these paragraphs are

the testimony from the creator's depositions. Q: And that's it, the testimony, right? A: *That is it*."

(Emphasis added)). However, Dr. Darrell's testimony was that the early July alleged alpha release of

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[8] Even if Google could meet its burden as to the date, Clango is still not prior art for the search
feature claim elements because Clango's search functionality was not disclosed to the public prior to
the Cox priority date. Thus, these are independent bases for partial summary judgment.

<div align="center">18</div>

Clango contained computer code that bore a creation date in the relevant computer code file of July 26, 2000, ***more than three weeks later*** than the alleged alpha release. Ex. 4 Darrell Depo. at 104:16-108:8 ("Q: What's the first date that this source file was in Audible Magic Clango software? A: I'm not sure. . . . Q: You don't know? A: I don't know a specific date. I only know the testimony of the creators." (Emphasis added.)), *see also*, Darrell Depo. at 110:18-111:2 ("Q: What evidence have you seen that this file was implemented in any version of the Clango system prior to July 26th, 2000, sir? A: The deposition testimony of the creators of the system. Q: And that's all? A: That's quite enough."); Ex. 1 Darrell Report at ¶ 193 (" . . . created on or before July 26, 2000, which is the same date by which the kd_tree code was created.").[9]

Dr. Darrell also confirmed that he had no corroboration for testimony about the kd-tree search functionality of the alleged beta release of Clango either. Ex. 4 Darrell Depo. at 111:3-112:16. Indeed, Dr. Darrell admitted that all of the source code files he reviewed bore modification dates of 2013 (more than a decade after Dr. Cox filed the applications that led to the patents-in-suit), and that he relied solely on testimony to suggest that those files were somehow the same as computer code that purportedly existed in 2000. Ex. 4 Darrell Depo. at 113:3-114:4. Dr. Darrell admitted that while it would be normal for a source code control system to have a snapshot of the actual code that reflected the alpha and beta releases of Clango, he reviewed no such code that could corroborate the testimony on which he solely relied. Ex 4 Darrell Depo. at 114:5-115:18; 132:21-133:15 ("I rely on the testimony of the creators for the fact that these are representative source codes that were incorporated into the versions that they testified to.").

<div align="center">

ii.   **Google failed to procure corroborating evidence that any version of Clango used kd-tree search prior to the critical date**

</div>

As shown above, Dr. Darrell asserts that both an alpha and a beta version of the Clango system used a kd-tree search as a necessary part of Google's reliance on those systems as prior art. But Google procured no contemporaneous evidence of the search functionality of either the alpha or

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[9] At a minimum, this evidence requires a partial finding that Google has failed to procure clear and convincing evidence of the alleged kd-tree search functionality of Clango that is earlier than July 26, 2000. This date is after Dr. Cox's invention of the systems in the asserted patents as Network-1 intends to show at trial, if necessary.

beta release of Clango. As discussed in the preceding section, Dr. Darrell reviewed no source code

files that reflect the actual code compiled into either of the alleged Clango releases. Indeed, as Dr.

Darrell admitted, all of the computer code he reviewed about Clango bore revision dates of 2013 –

many years after the critical date for Dr. Cox's patents. Further, Dr. Darrell failed to identify any

non-code contemporaneous documents that reflect the actual search functionality of the alleged

Clango alpha and beta systems. No contemporaneous computer code or other documentation was

produced that actually shows the functioning of those releases. Instead, all of this information, as Dr.

Darrell admitted, was supplied solely by testimony.

iii.   <u>Because the testimony is uncorroborated, it cannot support Clango</u> <u>as prior art</u>

As discussed in Section B.i.c, *supra*, uncorroborated testimony cannot support a prior art

assertion like that offered by Google. "Generally, oral testimony of prior public use must be

corroborated in order to invalidate a patent." *Juicy Whip, Inc. v. Orange Bang, Inc.*, 292 F.3d 728,

737-38; 743 (Fed. Cir. 2002). Further, multiple witnesses cannot "cross-corroborate" one another

with oral testimony. *See Lacks Indus., Inc. v. McKechnie Vehicle Components USA, Inc.*, 322 F.3d

1335, 1350 (Fed. Cir. 2003). But here, all that Google and Dr. Darrell offer is the oral testimony of

Messrs. Wold and Schrempp of Audible Magic. Notably, they were testifying in 2019 about the

precise functioning of alleged software releases nearly two decades earlier in July and August 2000.

The unreliability of such testimony of prior invention or prior use without actual corroboration of the

alleged facts is precisely why the Federal Circuit consistently holds that such testimony fails, as a

matter of law, to support an assertion of invalidity. Google bears the burden of proving all facts

supporting its allegation of invalidity by clear and convincing evidence. The only evidence Google

has procured that either the alleged alpha or beta release of Clango used a kd-tree search

functionality is testimony from the persons involved almost twenty-years after the fact. As a matter

of law, such testimony fails to carry Google's high burden of proof. Thus, Google's prior art

defenses based on Clango fail.

E.   **Google Fails To Establish That Clango Could Be Combined With Any Other Prior Art To Render Any Patent Claim Obvious**

As discussed previously, Google relies on assertions that a person skilled in the art would have combined the Chen reference with the Clango system in order to render claims of the Cox patents obvious. In particular, Google, through Dr. Darrell, asserts that a skilled artisan would have combined the kd-tree search functionality allegedly used in the Clango system with the teachings of the Chen reference. *See* Section C.i., *supra*.

i.   **Obviousness combinations require proof of a motivation to combine and a reasonable expectation of success**

As discussed in Section B.ii.b., *supra*, any reliance by Google on a combination of prior art, or a modification of a single prior art reference to render a patent claim obvious can only be based on a showing (by clear and convincing evidence) that a person of ordinary skill in the art, at the time of the asserted invention (by Dr. Cox) "would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so." *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1360 (Fed. Cir. 2012) (internal quotations omitted).

ii.   **Persons of skill in the art could not have combined Clango with Chen because Clango's search functionality was hidden from the public**

Google cannot sustain its burden of proof to show that a person skilled in the art would have been motivated to combine the search functions of Clango with the Chen reference because a person of skill in the art would have had no way to know of the search functions of Clango. Network-1 refers the Court to Paragraphs 25-28 of the L.R. 56.1 Statement. As discussed in Section C.ii., *supra*, the actual search functionality used by Clango was concealed from the public and could not be discerned from any public disclosure or from the use of the allegedly available Clango system. Indeed, Dr. Darrell admitted that even Chen himself (the author of the Chen reference) would not have known what kind of search algorithm was used in Clango. Ex. 4 Darrell Depo. at 237:2-240:11

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("Q: How would they know that was the algorithm used in Clango? A: They might not, but they would still have it available.").

Thus, Dr. Darrell admits that a person of skill in the art would not know what search algorithm Clango used, but would nonetheless be able to combine that unknown search algorithm with portions of another system in order to achieve the inventions of the Cox patents. This lack of evidence cannot sustain Google's burden of proof by clear and convincing evidence. If a person skilled in the art would not even know what they were combining, obviously, as a matter of basic logic, they could not have a reasonable expectation of success in the combination. Thus, Google's obviousness defense based on combinations involving Clango fail as a matter of law.

F.   **The Search Functions Of FreeAmp That Google Relies On To Meet The Claimed Search Features Were Not Disclosed To The Public And Cannot Qualify As Prior Art**

Google and its proposed expert, Dr. Darrell, rely on the alleged FreeAmp system as a basis for contentions of obviousness much the same way that they rely on Clango. Google does not assert that FreeAmp anticipates any claim of any patent in suit, but relies on it for a number of obviousness assertions regarding the asserted claims of the '988 and '237 patents. Google does not rely on the FreeAmp system with respect to any of the asserted claims of the '464 patent.

Just as in the discussion of the Clango system, all of the asserted claims of the Cox patents require a particular kind of search that is **non-exhaustive**, or an **approximate nearest neighbor search**, and all asserted claims of the '988 and '237 patent further require that the search be **sublinear**. Google asserts that the FreeAmp system used a "two-level hash" search algorithm that would purportedly disclose these claimed features of the asserted claims.[10] In all cases, however, it is undisputed that FreeAmp's creators made no public disclosure of FreeAmp's search functionality, nor could it be ascertained by users of the FreeAmp system. As such, FreeAmp cannot qualify as

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[10] Google points to a single alleged FreeAmp release it identifies as "beta 6" that it contends was released to the public on August 18, 2000. Ex. 1 Darrell Report at ¶ 145; Ex. 4 Darrell Depo. at 182:19-183:1. For purposes of this issue, Network-1 assumes that the FreeAmp system actually used such a search algorithm, though as addressed further below, Google lacks sufficient evidence that such a search was actually used in the FreeAmp system.

prior art with respect to its alleged search functionality and cannot be used to meet the claimed search feature elements (e.g., non-exhaustive search, approximate nearest neighbor search, or sublinear) under Section 103.

        i.   **<u>Google relies on the "two-level hash" search allegedly used by</u>**
                   <u>FreeAmp to meet the claimed search feature elements</u>

Where Google relies on FreeAmp by itself to contend that a particular patent claim is obvious, Google necessarily must rely on FreeAmp to allegedly disclose the claimed search elements of the asserted claims. This is the case for claim 17 of the '988 patent and for claims 33, and 34 of the '237 patent. Network-1 refers the Court to Paragraphs 29-35 of the L.R. 56.1 Statement.

Claim 17 of the '988 patent (which depends on claim 15) requires identification of an electronic work "based on a **non-exhaustive search** identifying a **neighbor**," "**wherein the non-exhaustive search is sublinear**" (emphasis added). Dr. Darrell contends that these claim elements were disclosed in the FreeAmp system through the "search algorithm" of the system in August of 2000 that Dr. Darrell describes as a "two-level hash structure." Ex. 1 Darrell Report at ¶¶ 242-243. Dr. Darrell concedes that the search allegedly used in the FreeAmp system at the relevant time was not sublinear and therefore does not meet the "sublinear" claim elements. Ex. 1 Darrell Report at ¶ 267.

Claim 33 of the '237 patent requires "using the media work extracted features to perform a **sublinear approximate nearest neighbor search** of reference extracted features." (emphasis added). Claims 34 and 35 depend from claim 33 and do not further modify this claim element. Dr. Darrell contends that this element was disclosed (though without a sublinear search) in the FreeAmp system by the same "two-level hash structure" search algorithm referenced above in connection with the '988 patent. Ex. 1 Darrell Report at ¶¶ 369-370.

Google also relies on certain combinations of the alleged FreeAmp "system" with some other asserted prior art. Relevant to this portion of Network-1's motion, Google also asserts combinations of FreeAmp with the Chen reference ('237 patent claims 34 and 35). Ex. 1 Darrell Report at ¶¶ 416. In connection with this combination with Chen, Dr. Darrell relies on FreeAmp to allegedly satisfy the claimed search elements of the asserted claims. Ex. 1 Darrell Report at ¶¶ 416-421 (identifying

nothing from the Chen reference as disclosing the search-related claim elements of the asserted

claims).

ii.   **It is undisputed that the "two-level hash" search of the FreeAmp**

system was not disclosed to the public

Google relies solely on the alleged availability of the FreeAmp system to users of that system

as the alleged public disclosure or public use of the relevant elements of the FreeAmp system. In

particular, Google asserts that FreeAmp was an MP3 player (a computer application that could play

digital music files stored on a computer in the MP3 file format) that integrated with a "fingerprinting

technology" from an entity called TRM. Ex. 1 Darrell Report at ¶¶ 141-143.

It is undisputed that the search algorithm used by the FreeAmp system was never disclosed to

the public. Sean Ward, the alleged creator of the FreeAmp search functionality explained that the

computer code to run any search was what he described as "server code" as contrasted with "client

code" meaning that it ran on TRM servers, not on the computers of users of the FreeAmp "system."

See Ex. 8 Ward Depo. at 42:10-44:19; 94:17-95:15; 96:18-97:1; 114:14-17. Network-1 refers the

Court to Paragraphs 36-37 of the L.R. 56.1 Statement.

Mr. Ward testified unequivocally that the server code – where Google alleges that the search

functionality of FreeAmp that purportedly discloses the claimed search elements was located – ***was***

never provided to people using the FreeAmp system. Ex. 8 Ward Depo. at 115:8-11. Indeed, he

testified that members of the public using the system did not "***have any information about what the***

server code was or how it worked." Ex. 8 Ward Depo. at 115:14-16 (emphasis added). Mr. Ward

admitted that there was no public disclosure of how the server side of the FreeAmp system worked.

Ex. 8 Ward Depo. at 115:17-116:4. Mr. Ward confirmed that such information was confidential and

not disclosed to the public. Ex. 8 Ward Depo. at 117:7-14 ("Q: So the methods by which any search

was conducted using your system in connection with FreeAmp, was that something that was

maintained as confidential? A: ***It was, yes***. Q: And that ***was not disclosed to the public***, correct?

A: ***Correct***." (Eemphasis added)). Mr. Ward further confirmed that members of the public using the

FreeAmp system "would not have any information about how any lookup was being conducted." Ex.

8 Ward Depo. at 119:6-15. Indeed, members of the public did not have access even to the binary

object code (computer readable) that was involved in the search functionality, and certainly not the source code that could be read by a human. Ex. 8 Ward Depo. at 119:17-20.

Google's proffered expert, Dr. Darrell, also concedes that any search functionality in the FreeAmp system was part of the "TRM server." Ex. 4 Darrell Depo. at 187:20-188:2. He admitted to not knowing whether users had any information about the kind of search algorithm the system used. Ex. 4 Darrell Depo. at 188:15-17. He conceded that persons using the system would not know the algorithm used. Ex. 4 Darrell Depo. at 193:1-4.

iii. **Because the FreeAmp search functionality was not disclosed to the public, it cannot anticipate or render obvious the claimed search feature elements under Section 102(a)**

Just as with the Clango system, any alleged public use of the FreeAmp system did not disclose any search functionality to the public and thus, the alleged search functionality of FreeAmp cannot qualify as prior art to the search features of the asserted claims under Section 102(a). As discussed previously in Sections B.i.a. and C.iii., *supra*, the Federal Circuit holds that aspects of an invention that are hidden from the public in a supposed public use of the invention are not disclosed for purposes of Section 102(a). *See, e.g., W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1549-1550 (Fed. Cir. 1983).

Here, as shown above, Google's expert witness, Dr. Darrell, and the fact witnesses involved with the alleged FreeAmp system admit that the alleged public use of the FreeAmp system would not have informed the public, or allowed it to discern, what kind of search was being performed by the FreeAmp server, let alone whether it was non-exhaustive, a neighbor search, near neighbor search, etc. As with the discussion of Clango, "if members of the public are not informed of, and cannot readily discern, the claimed features of the invention in the allegedly invalidating prior art, the public has not been put in possession of those features." *Dey, L.P. v. Sunovian Pharmaceuticals, Inc.*, 715 F.3d 1351, 1359 (Fed. Cir. 2013). Even assuming the FreeAmp system was publicly in use at the relevant time as Google contends, Google failed to adduce any evidence that this would actually put the public in possession of the details of the search allegedly performed by the FreeAmp server (the two-level hash search functionality). As such, the FreeAmp system cannot serve as prior art with

respect to the claimed search feature elements (non-exhaustive search, approximate nearest neighbor search, sublinear, etc.) under Section 102(a) as a matter of law.

        iv.   **It is undisputed that the FreeAmp two-level hash search algorithm was suppressed or concealed, so it cannot serve as prior art under Section 102(g)**

Just as discussed in connection with the Clango system, the analysis under Section 102(g) is similar to that under Section 102(a). Alleged prior invention cannot be prior art unless that prior invention is timely disclosed to the public and not "abandoned, suppressed, or concealed." It is again undisputed that the search functionality was confidential and not publicly known. Specifically, the two witnesses associated with the FreeAmp system confirmed that its two-level hash search functionality was kept confidential and not ever disclosed to the public. Mr. Ward (the alleged creator of the FreeAmp search functionality) testified that the FreeAmp search functionality was kept confidential and not disclosed to the public. Ex. 8 Ward Depo. at 115:8-116:18; 117:7-14. Similarly, Mr. Breslin (the other fact witness relating to the FreeAmp system) testified that the server code (which allegedly contained the relevant two-level hash search functionality) was never revealed publicly. Ex. 9 Breslin Depo. at 142:5-7. In fact, Mr. Breslin confirmed that such information was treated as "secret sauce" that was never disclosed to the public. Ex. 9 Breslin Depo. at 159:8-160:22. Network-1 refers the Court to Paragraph 38 of the L.R. 56.1 Statement.

Likewise, Google's proffered expert, Dr. Darrell, offers no evidence that FreeAmp ever publicly disclosed the actual nature of its two-level hash search functionality. He confirmed that FreeAmp never made a public disclosure of the source code for its alleged search functionality. Ex. 4 Darrell Depo. at 193:5-11. In his report's discussion of the search functionality of the FreeAmp system, Dr. Darrell does not identify any alleged public disclosure of the two-level hash search functionality, pointing only to internal emails and admittedly undisclosed computer source code. Ex. 1 Darrell Report at ¶¶ 242-258.

Thus, Google provides no evidence to support the lack of suppression or concealment required by Section 102(g), and certainly no disclosure in the twenty years since the alleged development in 2000. As discussed regarding Clango, such failure to disclose shows suppression or

concealment of the purported invention. *See Apotex USA, Inc. v. Merck & Co.*, 254 F.3d 1031, 1038-1039 (Fed. Cir. 2001). Google's failure to offer evidence of public disclosure at any time, even twenty years after the purported invention is fatal to its contentions here. The concealment of the alleged prior art search techniques used by FreeAmp disqualifies them as prior art under Section 102(g).

      v.   **Because the FreeAmp search was not prior art under Section 102, it cannot be relied on to show obviousness under Section 103**

As discussed regarding Clango, obviousness under Section 103 must be based upon prior art that would qualify as such under Section 102 (except for its failure to disclose all elements in the same manner as recited in the claims). Here, just as with Clango, the FreeAmp two-level hash search functionality discussed by Dr. Darrell was not part of a public use or prior invention as required by Sections 102(a) and (g) because it was never disclosed to the public. Accordingly, that two-level hash search functionality also cannot be part of the prior art for purposes of asserting obviousness under Section 103. *See Graham*, 85 S. Ct. at 692.

But as shown previously, Google's obviousness analysis that relies on FreeAmp alone, or FreeAmp in combination with Chen relies on the FreeAmp two-level hash search functionality as a necessary part of its showing, specifically to show that the prior art disclosed the claimed search feature elements (e.g., nonexhaustive search, approximate nearest neighbor search, sublinear, etc.) of the asserted claims of the Cox patents. Since the FreeAmp two-level hash search functionality does not qualify as a part of the prior art, Google's obviousness assertions based on FreeAmp alone or in combination with Chen each fail as a matter of law.

      G.   **Google Fails To Establish The Alleged Public Use Or Prior Invention Of FreeAmp (Specifically The Use Of A Two-Level Hash Search) Prior To The Critical Date Because It Relies On Uncorroborated Testimony**

As explained previously, to establish either a prior public use (for purposes of Section 102(a)), or a prior invention (for purposes of Section 102(g)), Google may not rely on uncorroborated testimony. *See supra* Section B.i.c. But, as with Clango, that is all Google presents regarding FreeAmp, and it thus fails to present evidence sufficient to carry its burden as a matter of law.

Specifically, Google cannot meet its burden of providing written corroboration that an August 2000 release of FreeAmp used a two-level hash search. Network-1 refers the Court to Paragraphs 39-40 of the L.R. 56.1 Statement.

i.   **Google's expert asserts that FreeAmp performed two-level hash search prior to Dr. Cox's invention based solely on testimony**

Google's expert, Dr. Darrell relies extensively on testimony from Sean Ward regarding the purported two-level hash search functionality of the FreeAmp system as of August 2000. Ex. 1 Darrell Report at ¶¶ 242-258; Ex. 4 Darrell Depo. at 187:12-15. But that testimony is uncorroborated. While Dr. Darrell discusses various computer source code files, those files undisputedly do not come from August 2000. Rather, as Mr. Ward confirmed, those computer code files are from no earlier than March, 2001, far too late to qualify as prior art to the Cox patents. Ex. 8 Ward Depo. at 112:10-113:1; 113:14-114:6. Mr. Ward could not even testify as to the changes between any code that might have existed in 2000 and the code from 2001 that was produced (though any such testimony would also be uncorroborated). Ex. 8 Ward Depo. at 114:7-13.

ii.   **Google failed to procure corroborating evidence that FreeAmp used a two-level hash search as of the date asserted by Google**

While Dr. Darrell asserts that FreeAmp functioned in a particular way in August of 2000, Google procured no contemporaneous evidence of the actual search functionality of that system. As discussed in the preceding section, Dr. Darrell reviewed no source code files that reflect the actual code from 2000. Rather, Dr. Darrell confirmed that he reviewed no computer code for FreeAmp dated earlier than March 2001. Ex. 4 Darrell Depo at 186:20-187:4. Further, Dr. Darrell failed to identify any non-code contemporaneous documents that reflect the actual search functionality of the alleged FreeAmp system in 2000. Instead, his only basis for asserting that the two-hash search was used prior to the Cox priority was, as Dr. Darrell admitted, supplied solely by testimony.

iii.   **Because the testimony is uncorroborated, it cannot support FreeAmp as prior art**

The same legal principles apply here as with respect to Clango. As discussed in Section B.i.c, *supra*, uncorroborated testimony cannot support a prior art assertion like that offered by

Google. "Generally, oral testimony of prior public use must be corroborated in order to invalidate a patent." *Juicy Whip, Inc. v. Orange Bang, Inc.*, 292 F.3d 728, 737-38; 743 (Fed. Cir. 2002). Further, multiple witnesses cannot "cross-corroborate" one another with oral testimony. *See Lacks Indus., Inc. v. McKechnie Vehicle Components USA, Inc.*, 322 F.3d 1335, 1350 (Fed. Cir. 2003). But here, all that Google and Dr. Darrell offer is the oral testimony of Mr. Ward. Notably, he was testifying in 2019 about the precise functioning of an alleged software release nearly two decades earlier in August 2000. Just as with Clango, the unreliability of such testimony of prior invention or prior use without actual corroboration of the alleged facts is precisely why the Federal Circuit consistently holds that such testimony fails, as a matter of law, to support an assertion of invalidity. The only evidence Google has procured to satisfy its clear and convincing burden of proof of the FreeAmp search functionality is testimony from the person involved almost twenty-years after the fact. As a matter of law, such testimony fails to carry Google's high burden of proof. Thus, Google's prior art defenses based on FreeAmp search functionality fail.

H. Google Fails To Establish That FreeAmp Could Be Combined With Any Other Prior Art To Render Any Patent Claim Obvious

With respect to claim 17 of the '988 patent, Google relies on FreeAmp in combination with a reference called Arya. In that proposed combination, Dr. Darrell asserts that the search functionality of FreeAmp would be replaced by a search algorithm from Arya. Ex. 1 Darrell Report at ¶¶ 272, 284. Google relies on the same combination in connection with Claim 33 of the '237 patent. Ex. 1 Darrell Report at ¶¶ 377, 379. Google also asserts combinations of FreeAmp with the Chen reference ('237 patent claims 34 and 35), and FreeAmp in combination with both Arya and Chen ('237 patent claims 34 and 35). Ex. 1 Darrell Report at ¶¶ 416, 427, 445. In connection with the combination with Chen, Dr. Darrell relies on the alleged two-level hash search of FreeAmp to allegedly satisfy the search elements of the asserted claims (e.g., non-exhaustive search, approximate nearest neighbor search, sublinear, etc.). Ex. 1 Darrell Report at ¶¶ 416-421 (identifying nothing from the Chen reference as disclosing the claimed search functionality of the asserted claims). With respect to the combination of FreeAmp with both Arya and Chen, Dr. Darrell asserts that the search

functionality of FreeAmp would be replaced by a search algorithm from Arya. Ex. 1 Darrell Report

at ¶¶ 429, 445-446.

<p style="text-align:center">i.   **Obviousness combinations require proof of a motivation to combine and a reasonable expectation of success**</p>

As discussed with respect to Clango and in Section B.ii.b., *supra*, Google's reliance on a

combination of prior art, or a modification of a single prior art reference to render a patent claim

obvious can only be based on a showing (by clear and convincing evidence) that a person of ordinary

skill in the art, at the time of the asserted invention (by Dr. Cox) "would have been motivated to

combine the teachings of the prior art references to achieve the claimed invention, and that the skilled

artisan would have had a reasonable expectation of success in doing so." *Kinetic Concepts, Inc. v.*

Smith & Nephew, Inc., 688 F.3d 1342, 1360 (Fed. Cir. 2012) (internal quotations omitted).

<p style="text-align:center">ii.   **Persons of skill in the art could not have combined FreeAmp because FreeAmp's two-level hash search functionality was hidden from the public**</p>

Google cannot sustain its burden of proof to show that a person skilled in the art would have

been motivated to combine or modify the FreeAmp system because a person of skill in the art would

have had no way to know of the search functions of FreeAmp. Network-1 refers the Court to

Paragraphs 41-47 of the L.R. 56.1 Statement. As discussed in Section F.ii., *supra*, the actual search

functionality used by FreeAmp was concealed from the public and could not be discerned from any

public disclosure or from the use of the allegedly available FreeAmp system. Dr. Darrell also admits

that the alleged search functionality of the FreeAmp system was not a sublinear search (as required

for all of the claims as to which Google relies on the FreeAmp system). Ex. 4 Darrell Depo. at

192:12-15.

Dr. Darrell asserts that a person skilled in the art would either 1) modify the search of

FreeAmp to make it sublinear (in some unspecified fashion) where he relies on either FreeAmp alone

or FreeAmp in combination with the Chen reference, or 2) substitute a search described in the Arya

reference for the search used in FreeAmp in combinations of FreeAmp including the Arya reference.

<p style="text-align:center">30</p>

As with Clango, however, a person skilled in the art would have no idea how the search of FreeAmp worked to either modify it or combine it with other prior art in order to achieve the inventions of the Cox patents. If a person skilled in the art would not even know what they were combining, obviously, as a matter of basic logic, they could not have a reasonable expectation of success in the combination. This cannot sustain Google's heightened burden of proof. Thus, Google's reliance on assertions of obviousness based on FreeAmp must fail as a matter of law.

IV.   **SUMMARY JUDGMENT SHOULD BE GRANTED ON GOOGLE'S CLAIMS OF INVALIDITY BASED ON THE COMBINATION OF CHEN AND ARYA BASED ON IPR ESTOPPEL**

Google's claims for invalidity of the asserted claims of the '988 and '237 patents based on a combination of the Arya and Chen references are barred by a statutory estoppel under 35 U.S.C. § 315. This alleged ground of invalidity could have been raised by Google in its *Inter Partes* Review proceedings involving these patents, but was not, and is now barred in this Court. Network-1 refers the Court to Paragraphs 48-58 of the L.R. 56.1 Statement.

A.   **Google's *Inter Partes* Reviews of the Challenged Claims of the '988 and '237 Patents Resulted in Final Written Decisions Affirming Their Validity**

As the Court is aware, Google has filed multiple challenges to the patents asserted in this lawsuit with the Patent Trial and Appeal Board ("PTAB"). Among these are: (1) IPR2015-00345 in which Google challenged multiple claims of the '237 patent including presently asserted claims 33, 34, and 35; and (2) IPR2015-00347 in which Google challenged multiple claims of the '988 Patent, including the presently asserted claim 17. Exs. 10 (0345 Petition), 16 (0347 Petition). Both of these IPRs were instituted and resulted in Final Written Decisions adverse to Google affirming the patentability of at least claims 33, 34, and 35 of the '237 Patent and claim 17 of the '988 patent. Ex. 14 ('237 patent Final Written Decision) at 24; Ex. 17 ('988 patent Final Written Decision) at 18.

In IPR2015-00345, the prior art references that Google asserted invalidated the challenged claims of the '237 patent included (1) U.S. Patent No. 7,444,353 to Alexander Chen ("Chen") and (2) the prior art publication "An Optimal Algorithm for Approximate Nearest Neighbor Searching in Fixed Dimensions" by Sunil Arya, et. al. dated July 6, 1998 ("Arya"). Ex. 10 Petition at 2; Exs.

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11(Arya), 12 (Chen). Specifically, Google contended that a reference entitled Iwamura in combination with Chen and that a reference entitled Levy in combination with both Chen and Arya invalidated claims 26-27 and 34-35 of the '237 patent. Ex. 10 Petition at 2. Likewise, in IPR205-00347, Google asserted that the same Arya reference in combination with Levy invalidated claim 17 and others of the ''988 patent. Patent. Ex. 15 Petition at 2. The PTAB instituted both IPRs on grounds that did not involve either Arya or Chen. Exs. 13, 16 Institution Decisions.[11] Google did not assert a combination of Chen and Arya as a ground for invalidity of any claim in these two IPR petitions.

In this action, Google relies on the proffered opinions of Dr. Darrell regarding invalidity of the Patents in suit. Ex.1 Darrell Report. In his report, Dr. Darrell opines that certain of the Asserted Claims are invalid over a combination of the Chen and Arya references. Specifically, Dr. Darrell asserts that the combination of Chen and Arya invalidates claim 17 of the '988 Patent and Claims 33, 34, 35 of the '237 Patent. Ex.1 Darrell Report at table of contents, pages 170-179, 204-209, 226-227, 231-232.

Google's assertion of invalidity of the asserted claims of the '988 and '237 patents based on Arya and Chen is barred by the estoppel provision of 35 U.S.C. § 315. As such, summary judgment as to this theory of invalidity should be granted.

B.   Section 315 Estoppel Applies to Prior Art Google Raised or Reasonably Could Have Raised In Its IPR Petitions

Section 315 of Title 35 United States Code provides the statutory basis for applying IPR estoppel to limit an unsuccessful petitioner's invalidity arguments in litigation:

> The petitioner in an *inter partes* review of a claim in a patent under this chapter that
>
> results in a final written decision under section 318(a) . . . may not assert either in a
>
> civil action arising in whole or in part under section 1338 of title 28 . . . that the claim
>
> is invalid on any ground that the petitioner ***raised or reasonably could have raised***
>
> during that *inter partes* review.

_____

[11] The PTAB's Institution Decisions predated the Supreme Court's decision in *SAS Institute Inc. v. Iancu*, 138 S.Ct. 1348 (2018), which precluded partial institution of an IPR.

35 U.S.C. § 315(e)(2) (emphasis added). An IPR petition may only include invalidity grounds based on "prior art consisting of patents or printed publications." 35 U.S.C. § 311(b). The issue of whether a party is estopped from raising an invalidity ground is a question of law. *See Parallel Networks Licensing, LLC v. Int'l Bus. Machs. Corp.*, No. CV 13-2072 (KAJ), 2017 WL 1045912, at *10 n.13 (D. Del. Feb. 22, 2017). Courts may apply IPR estoppel at the summary judgment stage and, in doing so, may consider the accused infringer's invalidity contentions and invalidity expert reports to determine whether the arguments therein are subject to IPR estoppel. *E.g.*, *id.* at *11-12 (granting summary judgment applying IPR estoppel to bar prior art references identified in invalidity contentions and invalidity expert's report); *Trustees of Columbia Univ. in the City of New York v. Symantec Corp.*, No. 3:13CV808, 2019 WL 2814682, at *9 (E.D. Va. July 2, 2019) (hereinafter "*Columbia*") (granting summary judgment on IPR estoppel and "conclud[ing] that the plain language of 35 U.S.C. § 315(e)(2) unambiguously estops [Defendant] from asserting as grounds of invalidity those dozens of additional grounds presented in its invalidity contentions which [Defendant] chose not to raise in its petitions for *inter partes* review").

While the Federal Circuit has yet to discuss the scope of the "reasonably could have raised" prong of § 315(e)(2) following the Supreme Court's decision in *SAS Institute, Inc. v. Iancu*, __ U.S. __, 138 S. Ct. 1348 (2018), courts around the country have coalesced around a specific interpretation that originates from the statute's legislative history:

> In congressional debates, one of the key architects of the America Invents Act
> explained that "reasonably could have raised" is meant to include any patent or printed
> publication that a petitioner ***actually knew about or*** that "a skilled searcher conducting
> a diligent search ***reasonably could have been expected to discover***."

SiOnyx, LLC v. Hamamatsu Photonics K.K., 330 F. Supp. 3d 574, 602 (D. Mass. 2018) (quoting 157 Cong. Rec. S1375 (daily ed. Mar. 8, 2011) (statement of Sen. Kyl)) (emphasis added); *see also, e.g.*, *Cal. Inst. of Tech. v. Broadcom Ltd.*, No. CV 16-3714 GW (AGRX), 2018 WL 7456042, at *8 (C.D. Cal. Dec. 28, 2018) (Wu, J.) (hereinafter "*Caltech I*") (quoting *SiOnyx* and "adopt[ing] the same standard"); *Columbia*, 2019 WL 2814682, at *9 (applying same standard and explaining that "the Court readily finds that the plain language of § 315(e)(2) bars [defendant] from supporting its invalidity

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affirmative defense with those grounds of invalidity that it knew existed, but chose not to assert, in its petitions for *inter partes* review"); *Novartis Pharm. Corp. v. Par Pharm. Inc.*, No. 14-1289, 2019 U.S. Dist. LEXIS 62489, at *6 (D. Del. Apr. 11, 2019) (applying same standard and citing additional cases).

For example, as explained in *Caltech I*, the legislative history reflected in Senator Kyl's statement "supports the view that § 315(e)(2) was intended to provide **broad estoppel coverage**." *Caltech I*, 2018 WL 7456042, at *8 n.8 (emphasis added). The *Caltech I* Court further noted that the following statement by then-Director of the USPTO David Kappos during the enactment of the America Invents Act likewise supports broad IPR estoppel: "If I can say that in my own words also, that I believe there are significant advantages for patentees who successfully go through the post-grant system . . . because of those estoppel provisions. Those estoppel provisions mean that your patent is **largely unchallengeable by the same party**." *Id.* (emphasis added) (quoting *America Invents Act: Hearing on H.R. 1249 Before the House Comm. on the Judiciary*, 112th Cong. 52-53 (2011) (statement of Director David Kappos)); *see also Douglas Dynamics, LLC v. Meyer Prods. LLC*, No. 14-CV-886-JDP, 2017 WL 1382556, at *4 (W.D. Wis. Apr. 18, 2017) ("[T]he legislative history . . . clearly suggests that Congress intended IPR to serve as a **complete substitute** for litigating validity in the district court." (emphasis added)), *clarified by* 2017 WL 2116714 (W.D. Wis. May 15, 2017); 157 Cong. Rec. S1360-94 (daily ed. Mar. 8, 2011) (statement of Sen. Grassley) (describing purpose of IPR estoppel provision as "ensur[ing] that if an *inter partes* review is instituted while litigation is pending, that review will **completely substitute** for at least the **patents-and-printed-publications portion** of the civil litigation" (emphasis added)).

Courts have also recognized that the standard adopted in *Caltech I*, *SiOnyx*, *Columbia*, and numerous other cases gives effect to the statutory language of Section 315 and furthers the policy goals of IPR proceedings. *E.g.*, *Novartis*, 2019 U.S. Dist. LEXIS 62489, at *6 ("Moreover, one of the policy objectives behind the introduction of IPR proceedings was an intention to conserve judicial resources. . . . Allowing an IPR petitioner to have two bites at the apple by holding back certain obviousness combinations runs counter to both the clear language and purpose behind § 315." (citation omitted)); *see also SAS Institute*, 138 S. Ct. at 1355 (emphasizing that "in an *inter partes* review the petitioner is master of its complaint"). "In addition to the plain language of § 315(e)(2) and the purpose

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of the estoppel provision and *inter partes* review, fundamental principles of fairness also support a finding that statutory estoppel applies to non-petitioned grounds" of invalidity. *Columbia*, 2019 WL 2814682, at *12; *see also Cobalt Boats, LLC v. Sea Ray Boats, Inc.*, No. 2:15-cv-21, 2017 WL 2605977, at *3 (E.D. Va. June 5, 2017) (stating that it would "eviscerat[e] the advantages of staying litigation for an IPR petition" and "waste this Court's time to allow a stay for a year during IPR proceedings and then review invalidity arguments that Defendants could (and perhaps should) have raised in their IPR petition").

C.   Google Is Estopped From Challenging The Asserted Claims of the '237 and '988 Patents Based On the Combination of Chen and Arya

By the clear terms of the statute there is no dispute that Section 315 estoppel applies to every prior art reference that was raised in Google's IPR petitions. *See* 35 U.S.C. § 315(e)(2) ("The petitioner in an *inter partes* review . . . that results in a final written decision . . . may not assert either in a civil action arising in whole or in part under section 1338 of title 28 . . . that the claim is invalid on any ground that the petitioner ***raised*** or reasonably could have raised during that *inter partes* review."). For this reason, alone Google should be precluded from relying on the Arya and/or Chen reference to invalidate the asserted claims of the '237 and '988 patents as it actually raised this art in its IPRs.

Google cannot avoid this result by arguing either that: (1) the Board did not institute either IPR on grounds involving Arya and/or Chen; or (2) Google did not assert the same combination of Arya and Chen in the IPR. Google is estopped from asserting invalidity here based on any prior art it "reasonably could have raised during th[e] *inter partes* review" proceedings." 35 U.S.C. § 315(e)(2). Because Google did in fact identify these two reference in its IPR petitions, it reasonably could have raised the same combination in those IPRs that it asserts in this Court and thus is precluded from doing so now.

Additionally Google identified both Arya and Chen in its invalidity contentions in this case, which pre-date its IPR petitions. Ex. 18 Invalidity Contentions at 2-5. This further confirms that Google could have asserted this combination of art in its petition and is now estopped from pursuing this combination by Section 315. *See, e.g., Parallel Networks*, 2017 WL 1045912, at *11-12 (granting summary judgment applying IPR estoppel to bar prior art references identified in invalidity

contentions); *Columbia*, 2019 WL 2814682, at *9 (granting summary judgment on IPR estoppel and "conclud[ing] that the plain language of 35 U.S.C. § 315(e)(2) unambiguously estops [Defendant] from asserting as grounds of invalidity those dozens of additional grounds presented in its invalidity contentions which [Defendant] chose not to raise in its petitions for inter partes review"). Because Google "actually knew about" these references when it filed its IPR petitions, it therefore "reasonably could have raised" them in IPR. *SiOnyx*, 330 F. Supp. 3d at 602*; Caltech I*, 2018 WL 7456042, at *8. As a result, Google is estopped from arguing invalidity here based on its offered combination of these two references. *See, e.g., ZitoVault, LLC v. Int'l Bus. Machs. Corp.*, No. 3:16-cv-0962-M, 2018 WL 2971178, at *4 (N.D. Tex. Apr. 4, 2018) ("Defendants are statutorily estopped from arguing that the instituted claims of the [asserted] patent are anticipated or obvious in light of prior art patents and publications discussed in their [pre-IPR] invalidity contentions."); *Columbia*, 2019 WL 2814682, at *9 (explaining that "the Court readily finds that the plain language of § 315(e)(2) bars [defendant] from supporting its invalidity affirmative defense with those grounds of invalidity that it knew existed, but chose not to assert, in its petitions for inter partes review").

For this reason, Summary Judgment is appropriate as to Google's assertions of invalidity of asserted claims of the '988 and '237 patents based on a combination of the Arya and Chen references.

V.   CONCLUSION

Google's validity challenges under Sections 102 and 103 fail as a matter of law. Google's challenges to the validity of claims in the Cox patents based upon the Clango or FreeAmp systems fail both because of the non-public nature of the key elements of those systems and because Google failed to present corroboration for testimony purportedly establishing the functioning of those systems. Google's challenges to the validity of the claims of the '988 patent and the '237 patent based on a combination of the Chen and Arya prior art references fail because Google is estopped from asserting such a challenge in this Court.

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